THE HANFORD SITE

Tank Integrity Program Update on SX Farm Tank Domes Under Observation

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Objectives & Overview

- History of SX tank farm
- Tank integrity program and SX tanks
- Tank-by-tank update
- Tank SX-111 structural evaluation
- Conclusion and path forward

History of SX Tank Farm

- 15 SX tanks built from 1953 to 1954 in 200 West Area
- 1-million-gallon capacity tanks
- Received Reduction Oxidation (REDOX) Plant waste

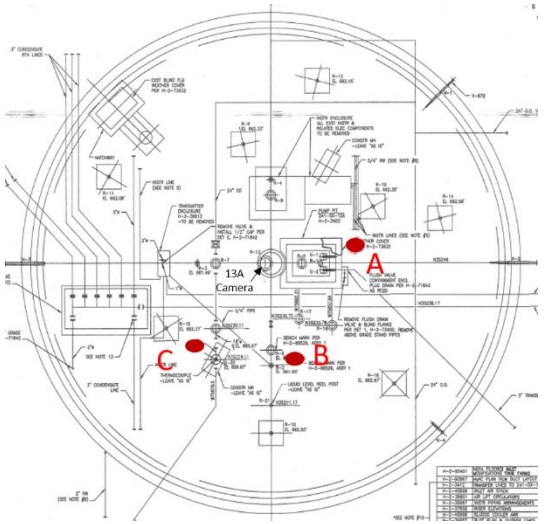
Tank Integrity Program and SX Farm Tanks

- Robust integrity program successful in detecting changes in condition of tanks
- SX farm tanks under closer observation due to concrete flaking, or spalling
- Recent changes observed in spalling in dome of SX-111 in video inspections and new application of laser scans
- Structural engineering evaluation concluded that the tanks remain structurally sound, safe for storing waste; Pacific Northwest National Laboratory (PNNL) analysis concurs

Visual inspections of the inside of single-shell tanks are a key part of the tank integrity program.

SX-112 Inspections

- 2/21/20: Visual inspection of three locations of spalling under observation
- 7/20/20 and 8/25/21: Visual inspections; areas of spalling did not change
- 9/9/21: Laser imaging inspection; areas of spalling with similar results



Area A

Area B

Area C

SX-109 Inspections

- 7/28/20: Visual inspection of one location of spalling under observation (photo shows piece of spalled concrete on waste in the tank)
- 8/30/21: Visual inspection: area of spalling did not change

7/28/2020

8/30/21

SX-108 Inspection

- 8/6/20: Visual inspection of one location of spalling under observation
- No follow-up inspection needed in 2021

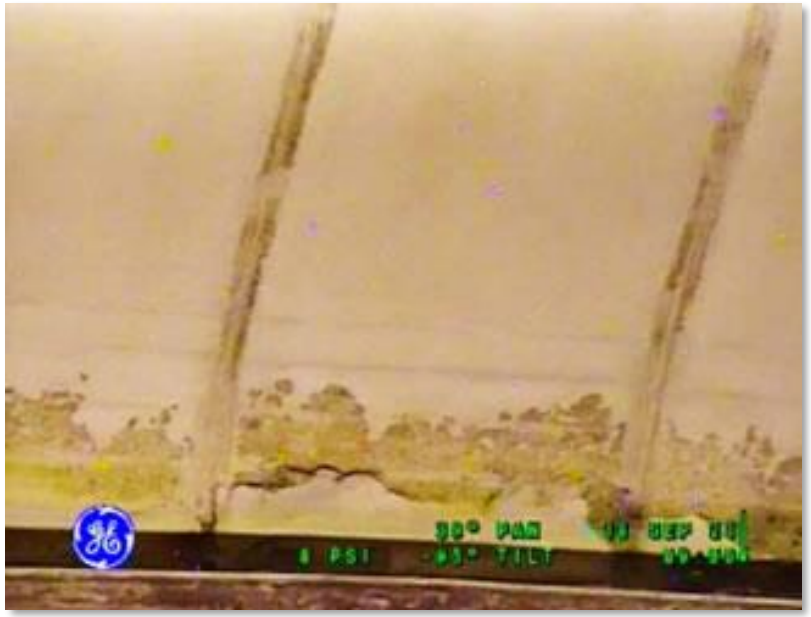
8/6/2020

SX-107 Inspections

- 8/31/11: Visual inspection of one location of spalling under observation
- 9/21/21: Visual inspection: area of spalling did not change

Steel Liner

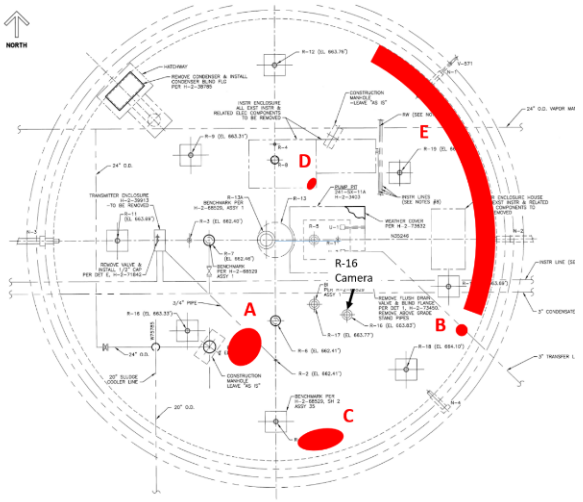
8/31/2011



9/21/2021

SX-111 Inspections

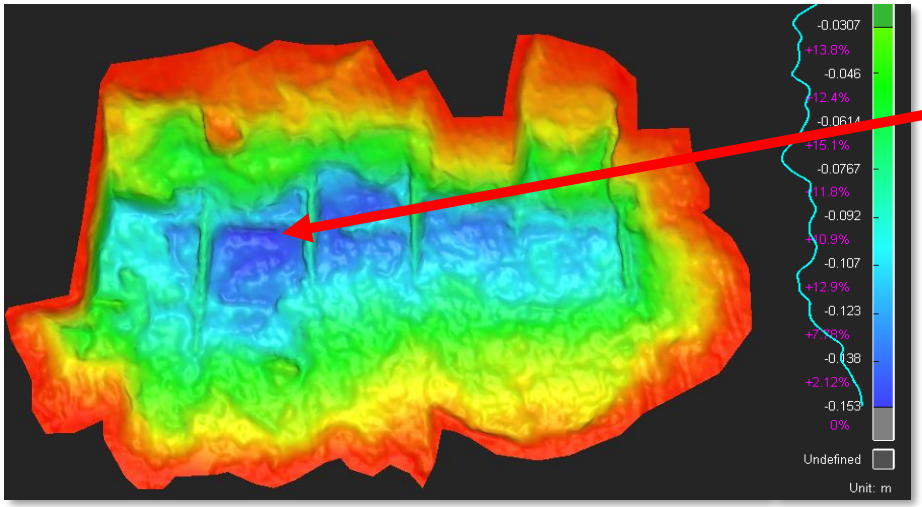
- 8/13/20: Visual inspection of five areas of spalling under observation
- 8/18/21: Visual inspection: one area of spalling (Area C) changed



August 2020

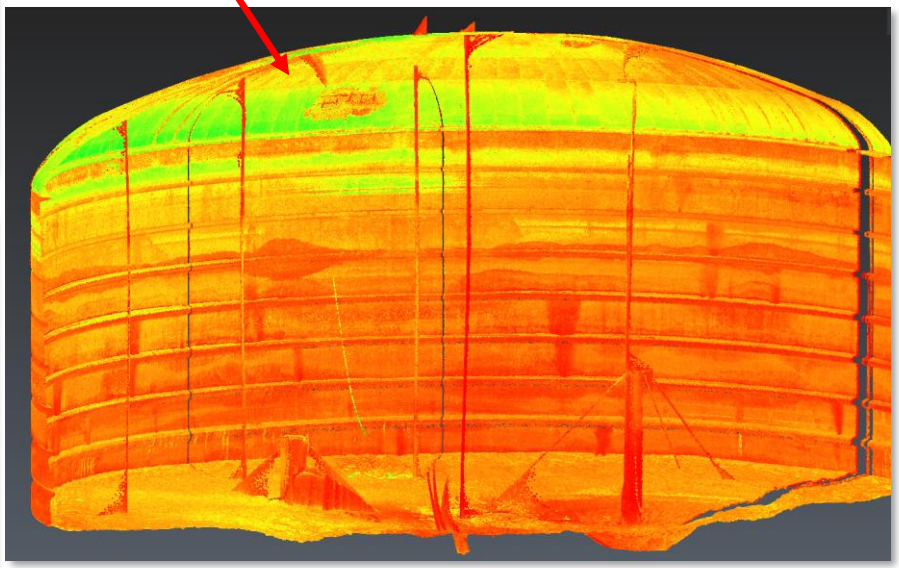
August 2021

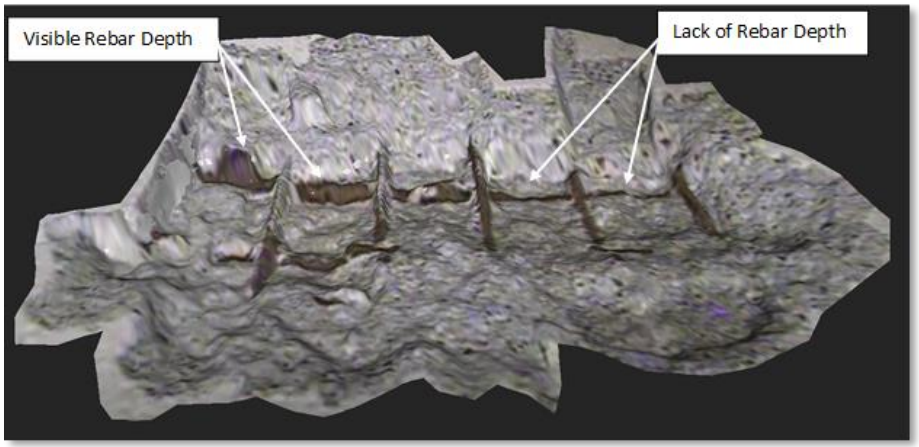
SX-111 Laser Imaging Scan (2021)



Max. spalling depth approx. 6 inches

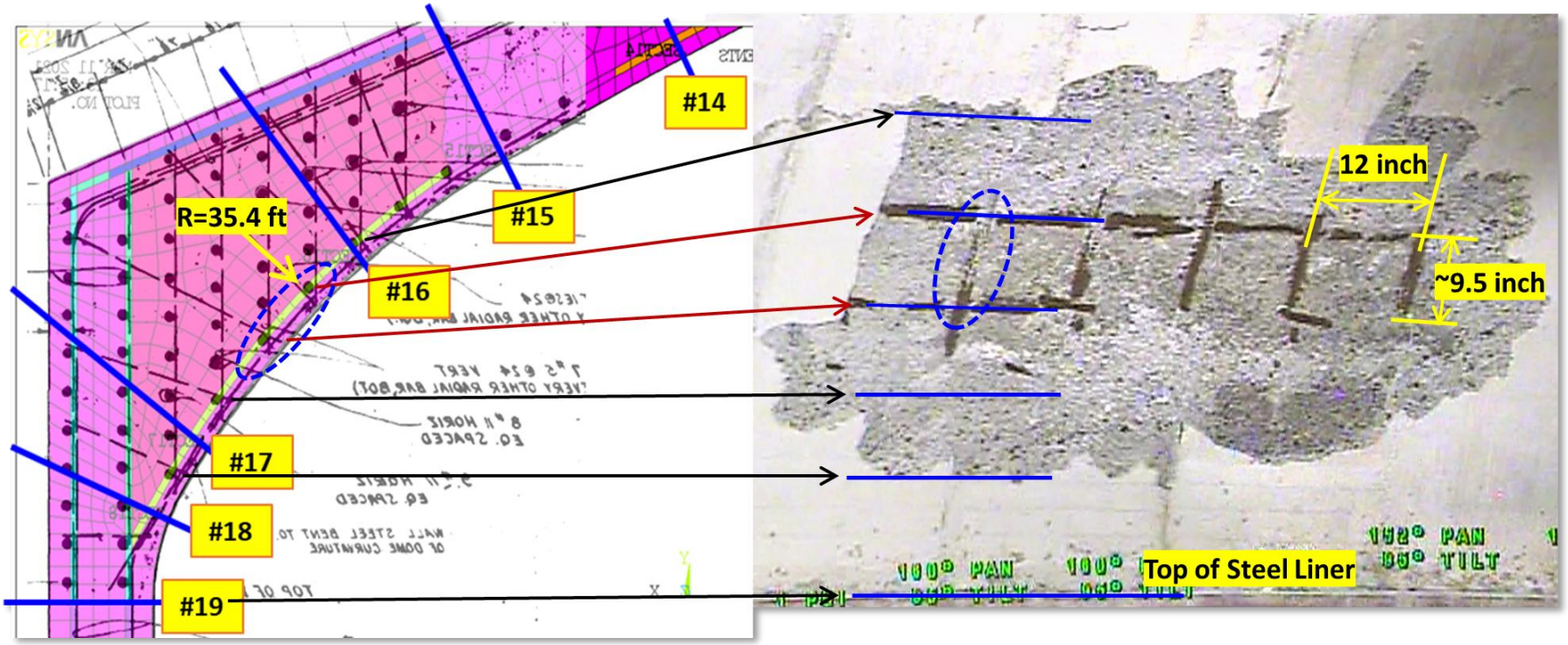
Spalling location on the dome





SX-111 Structural Evaluation

PNNL analysis concluded spalling in the tank dome in August does not pose a threat to the structural integrity of the tank



Conclusion and Path Forward

- We will continue to aggressively monitor the conditions of the SX tanks to ensure structural integrity and operational safety are maintained
  - Robust tank integrity program is effective
    - Laser scanning enhances capabilities
  - PNNL experts concur current spalling conditions do not pose threat to structural integrity of SX tanks
- Path forward
  - Maintain rigor of integrity program capitalizing on new technologies
  - Respond to any emergent issues revealed during the monitoring
  - Continue consulting with PNNL, Tank Integrity Expert Panel

Questions